First Grade
2016 Science Standards Resource Guide

Physical Science				
2016 Indiana Academic Standards	**Clarifying Statements**	**Vocabulary**	**Crosscutting Concept**	**Disciplinary Core Idea**
1.PS.1 Characterize materials as solid, liquid, or gas and investigate their properties, record observations and explain the choices to others based on evidence (i.e., physical properties).			Energy and Matter Structure and Function	PS1.A: Structure and Properties of Matter
1.PS.2 Predict and experiment with methods (sieving, evaporation) to separate solids and liquids based on their physical properties.			Energy and Matter Structure and Function	PS1.A: Structure and Properties of Matter
1.PS.3 Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.			Energy and Matter	PS3.A: Definitions of Energy
1.PS.4 Make observations to collect evidence and explain that objects can be seen only when illuminated.				

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Earth and Space Science				
2016 Indiana Academic Standards	**Clarifying Statements**	**Vocabulary**	**Crosscutting Concepts**	**Disciplinary Core Idea**
1.ESS.1 Use observations of the sun, moon, and stars to describe patterns that can be predicted.			Patterns Systems and System Models	ESS1.A: The Universe and Its Stars ESS1.B: Earth and the Solar System
1.ESS.2 Observe and compare properties of sand, clay, silt, and organic matter. Look for evidence of sand, clay, silt, and organic matter as components of soil samples.			Structure and Function	ESS2.A: Earth Materials and Systems
1.ESS.3 Observe a variety of soil samples and describe in words and pictures the soil properties in terms of color, particle size and shape, texture, and recognizable living and nonliving items.			Structure and Function	ESS2.A: Earth Materials and Systems

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Life Science				
2016 Indiana Academic Standards	**Clarifying Statements**	**Vocabulary**	**Crosscutting Concepts**	**Disciplinary Core Ideas**
1.LS.1 Develop representations to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.			Structure and Function Stability and Change	LS1.A: Structure and Function LS1.B: Growth and Development of Organisms
1.LS.2 Develop a model mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs. Explore how those external parts could solve a human problem.			Systems and System Models Structure and Function	LS1.B: Growth and Development of Organisms LS4.C: Adaptation
1.LS.3 Make observations of plants and animals to compare the diversity of life in different habitats.				LS2.C: Ecosystem Dynamics, Functioning, and Resilience LS4.D: Biodiversity and Humans

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1.LS.4 Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.			Systems and System Models	LS4.D: Biodiversity and Humans

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Engineering				
2016 Indiana Academic Standards	**Clarifying Statements**	**Vocabulary**	**Crosscutting Concepts**	**Disciplinary Core Ideas**
K-2.E.1 Pose questions, make observations, and obtain information about a situation people want to change. Use this data to define a simple problem that can be solved through the construction of a new or improved object or tool.				ETS1.A: Defining and Delimiting an Engineering Problem
K-2.E.2 Develop a simple sketch, drawing, or physical model to illustrate and investigate how the shape of an object helps it function as needed to solve an identified problem.				ETS1.B: Developing Possible Solutions ETS1.C: Optimizing the Design Solution
K-2.E.3 Analyze data from the investigation of two objects constructed to solve the same problem to compare the strengths and weaknesses of how each performs.				ETS1.B: Developing Possible Solutions ETS1.C: Optimizing the Design Solution